

PROJECT DESCRIPTION

GENERAL

THIS PROJECT INVOLVES THE INSTALLATION OF A NEW TRAFFIC CONTROL SIGNAL AND STREET LIGHTING AT THE INTERSECTION OF MD 178 (GENERALS HIGHWAY) AND VETERANS HIGHWAY IN ANNE ARUNDEL COUNTY. VETERANS HIGHWAY IS ASSUMED TO RUN IN A NORTH-SOUTH DIRECTION.

INTERSECTION OPERATION

THE INTERSECTION WILL OPERATE IN A NEMA FOUR-PHASE, FULL TRAFFIC ACTUATED MODE WITH A SOUTHBOUND EXCLUSIVE/PERMISSIVE LAGGING LEFT TURN PHASE.

CONTROLLER REQUIREMENTS

INSTALL A NEMA SIZE '6' BASE MOUNTED CABINET. THE SHA SIGNAL SHOP WILL SUPPLY A NEMA EIGHT-PHASE FULLY ACTUATED TRAFFIC SIGNAL CONTROLLER WITH ASSOCIATED HARNESSSES, ONE (1) 4 CHANNEL DETECTOR AMPLIFIER, AND ONE (1) VIDEO DETECTION INTERFACE EQUIPMENT. 1-4 CAMERAS WITHIN THE CABINET.

PHONE DROP

THE CONTRACTOR SHALL NOTIFY MR. ROBERT SNYDER OF SHA AT 410-787-7635 TO ARRANGE FOR THE PHONE DROP LINE INSTALLATION. THE CONTRACTOR IS TO NOTIFY MR. SNYDER WITH THE NEAREST STREET ADDRESS, ZIP CODE AND PHONE NUMBER.

THE CONTACT PERSONS FOR DISTRICT #5 ARE AS FOLLOWS:

Ms. Kimberly Tran  
Assistant District Engineer - Traffic  
Phone: 410-841-1019

Mr. Mike Huber  
District Utility Engineer  
Phone: 410-841-1039

Mr. James Folden  
Assistant District Engineer - Construction  
Phone: 410-841-1031

Mr. John Mays  
Assistant District Engineer - Maintenance  
Phone: 410-841-1013

THE CONTACT PERSONS FOR THE OFFICE OF TRAFFIC AND SAFETY ARE AS FOLLOWS:

Mr. Richard L. Daff, Sr.  
Chief, Traffic Operations Division  
Phone: 410-787-7630

Mr. Robert Snyder  
Assistant Division Chief, Traffic Operations  
Phone: 410-787-7630

Mr. Edward Rodehizer  
Team Leader Signal Operations  
Phone: 410-787-7650

Mr. Eugene Bailey  
Team Leader Sign Operations  
Phone: 410-787-7670

Ms. Darlene Elde  
Supply Officer IV (Signal Shop Warehouse)

The Power Company Representative is:  
BGE Company  
7317 Parkway Drive South  
Hanover, MD 21076  
Phone: 410-859-9062

EQUIPMENT LIST 'A'

EQUIPMENT TO BE FURNISHED BY THE SHA.

ITEM NO.	QUANTITY	DESCRIPTION
9016	1 EA	[UPDATED] 4 CHANNEL DETECTOR AMPLIFIER
9044	1 EA	[UPDATED] CONTROLLER CABINET, SIZE 6
9086	1 EA	[UPDATED] VIDEO DETECTION INTERFACE EQUIPMENT: 1-4 CAMERAS
9570	46 SF	[UPDATED] SHEET ALUMINUM SIGNS GROUND MOUNTED 3-EA W3-3 (36 IN. x 36 IN.) 3-EA W16-14(1) (24 IN. x 24 IN.) 1-EA D-3(2) (42 IN. x 24 IN.)
9571	72 SF	[UPDATED] SHEET ALUMINUM MAST ARM/POLE MOUNTED SIGN 1 EA - M1-5(6) (30 IN. x 48 IN.) "SOUTH, MD 178, RIGHT ARROW" 1 EA - M1-5(6) (48 IN. x 72 IN.) "SOUTH, MD 178, LEFT ARROW" 1 EA - SHIELD ASSEMBLY (24 IN. x 96 IN.) "TO, WEST, MD 32, SOUTH, MD 3, LEFT ARROW" 1 EA - D-3(1) (96 IN. x 16 IN.) "Generals HWY" DUAL FACED 1 EA - D-3(1) (96 IN. x 16 IN.) "Veterans HWY" SINGLE FACED

EQUIPMENT LIST 'C'

EQUIPMENT TO BE REMOVED AND RETURNED TO SHA.

ITEM NO. QUANTITY DESCRIPTION

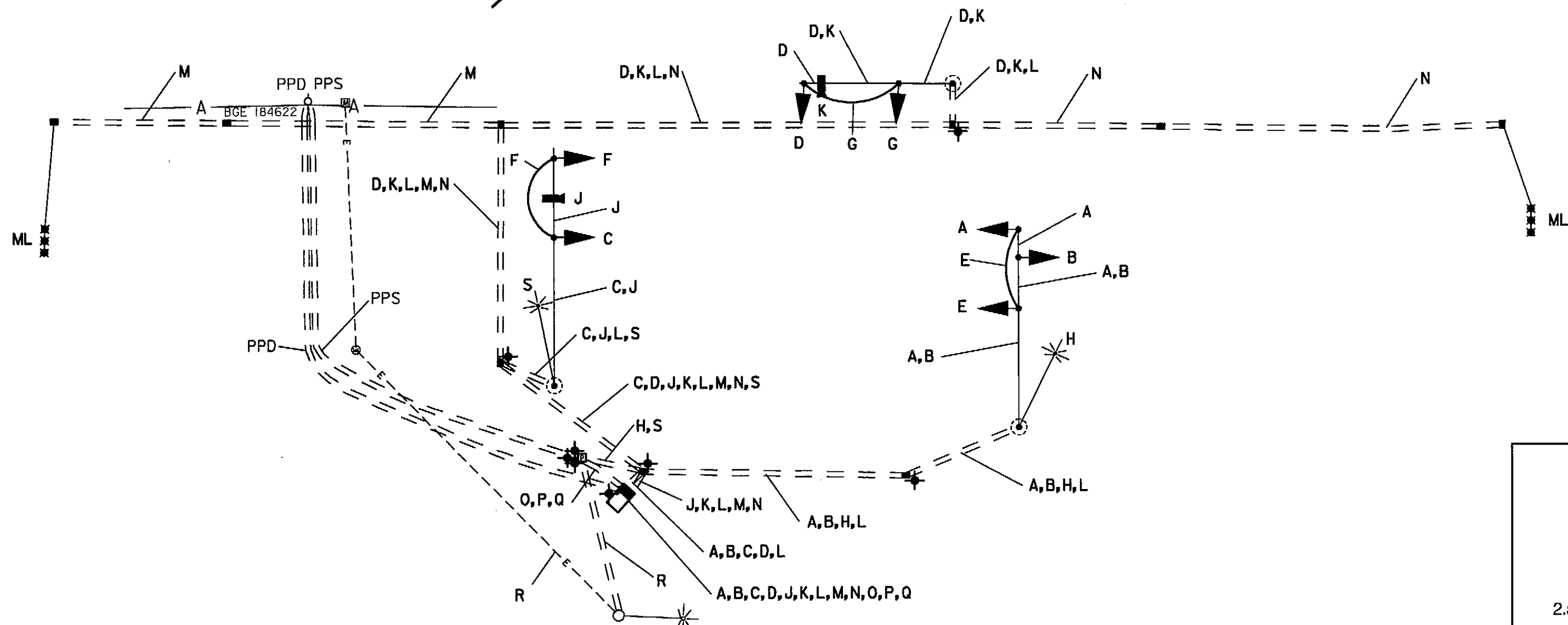
NONE - ALL REMOVED EQUIPMENT SHALL BECOME THE PROPERTY OF THE CONTRACTOR

EQUIPMENT LIST 'A'

EQUIPMENT TO BE FURNISHED AND INSTALLED BY THE CONTRACTOR.

ITEM NO.	QUANTITY	DESCRIPTION
1003	3 EA	MAINTENANCE OF TRAFFIC PER ASSIGNMENT
2002	3 CY	TEST PIT EXCAVATION
5000	2470 LF	4 INCH WHITE OR YELLOW LEAD FREE REFLECTIVE THERMOPLASTIC PAVEMENT MARKINGS
5003	4 EA	REMOVAL OF EXISTING PERM PVMT MARKING LETTERS, SYMBOLS, ARROWS AND NUMBERS
5005	65 LF	24 INCH HEAT APPLIED WHITE PERMANENT PREFORMED THERMOPLASTIC PAVEMENT MARKINGS
5007	1740 LF	REMOVAL OF EXISTING PERMANENT PAVEMENT LINE MARKINGS - ANY WIDTH
8006	2 EA	ANY SIZE LIGHTING ARM ON SIGNAL POLE WITH 250 WATT HPS LAMP AND LUMINAIRE
8015	1 EA	MAST ARM POLE AND 38 FT. MAST ARM ANY 'T' DIMENSION
8016	1 EA	MAST ARM POLE AND 60 FT. MAST ARM ANY 'T' DIMENSION
8018	1 EA	MAST ARM POLE AND 60 FT. MAST ARM ANY 'T' DIMENSION
8019	2 EA	MICROLOOP PROBE (ANY LENGTH) LEAD IN CABLE UP TO 1000 FT
8021	1 EA	REMOVE AND DISPOSE OF MATERIAL AND EQUIPMENT PER ASSIGNMENT
8025	2 EA	VIDEO DETECTION CAMERA AND CABLE UP TO 500 FT.
8026	20 LF	1 INCH DETECTOR SLEEVE GALVANIZED OR FLEXIBLE LIQUID TIGHT
8033	300 LF	SCHEDULE 80 RIGID PVC CONDUIT UP TO 4 INCHES - BORED
8035	910 LF	SCHEDULE 80 RIGID PVC CONDUIT UP TO 4 INCHES - TRENCHED
8036	108 LF	WOOD SIGN SUPPORT UP TO 4 x 6
8038	118 SF	INSTALL OVERHEAD OR GROUND MOUNTED SIGN (INCLUDING ALL HARDWARE)
8040	430 LF	NO. 6 AWG STRANDED BARE COPPER GROUND WIRE
8042	1 EA	METERED SERVICE PEDESTAL EMBEDDED
8045	30 LF	ELECTRICAL CABLE 1-CONDUCTOR NO 8 AWG-THHN/THWN
8046	9 EA	FURNISH AND INSTALL ELECTRICAL HANDHOLE
8050	25 EA	12 INCH LED VEHICULAR TRAFFIC SIGNAL HEAD SECTION
8056	80 LF	ELECTRICAL CABLE - 5 CONDUCTOR (NO. 14 AWG)
8057	880 LF	ELECTRICAL CABLE - 7 CONDUCTOR (NO. 14 AWG)
8058	370 LF	ELECTRICAL CABLE - 2 CONDUCTOR (NO. 12 AWG), TC
8060	80 LF	SAW CUT FOR SIGNAL (LOOP DETECTOR)
8065	1 EA	INSTALL CONTROLLER AND CABINET - BASE MOUNTED

WIRING DIAGRAM



A B C D  
ELECTRICAL CABLE - 7 CONDUCTOR (NO. 14 AWG)

E F G  
ELECTRICAL CABLE - 5 CONDUCTOR (NO. 14 AWG)

H I J  
ELECTRICAL CABLE - 2 CONDUCTOR (NO. 14 AWG) TC

J K L  
CONTROL CABLE, 250 FT. VIDEO DETECTION CAMERA TO CONTROLLER

K L M  
CONTROL CABLE, 500 FT. VIDEO DETECTION CAMERA TO CONTROLLER

L M N  
NO. 6 AWG STRANDED BARE COPPER GROUNDED WIRE

M N  
MICROLOOP DETECTOR LEAD IN CABLE - 1000 FT.

R S  
DISCONNECT, PULL BACK AND REROUTE EXISTING ELECTRICAL CABLE

O P Q  
ELECTRICAL CABLE - 1 CONDUCTOR (NO. 8 AWG-THHN/THWN)

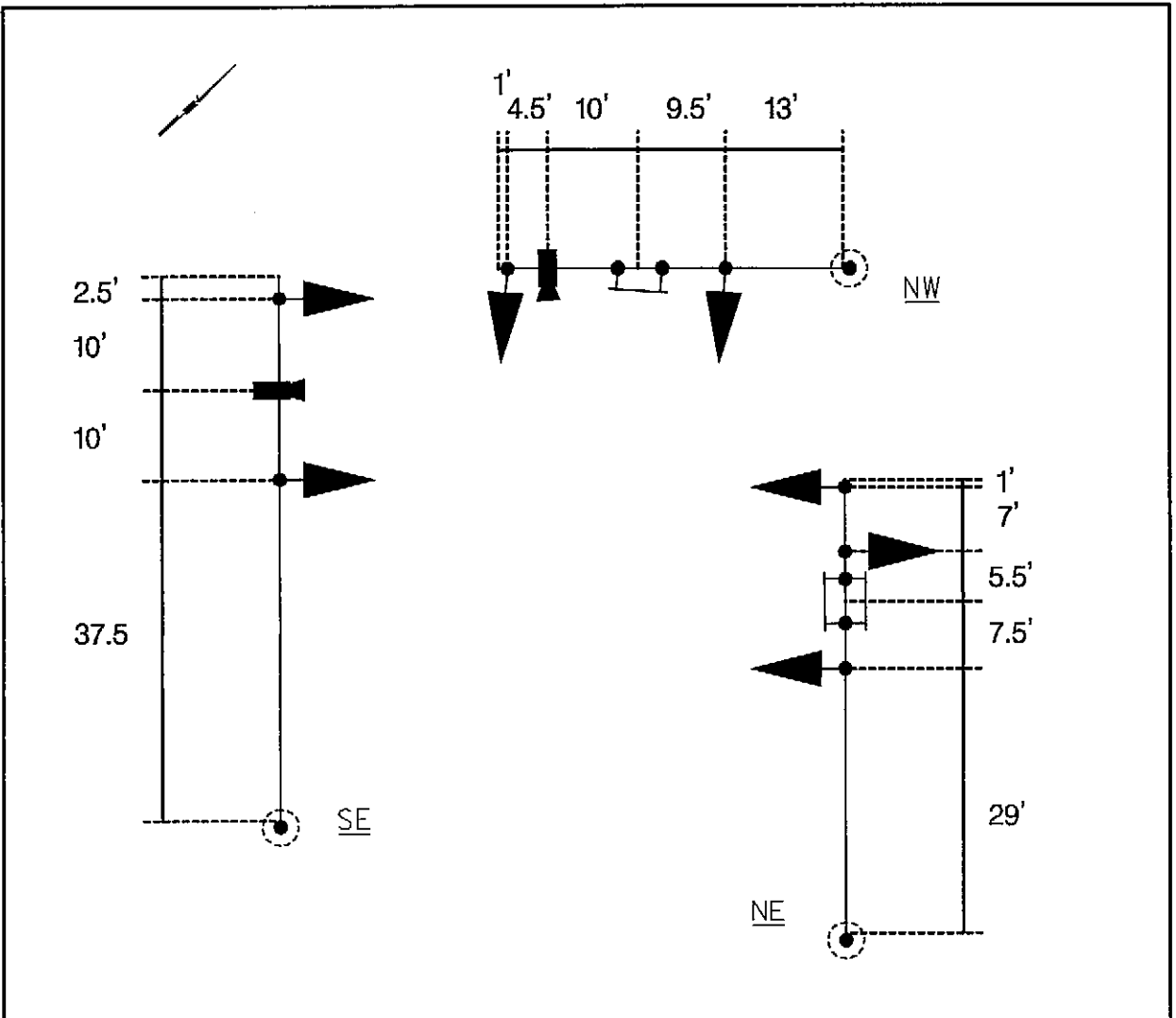
ML  
MICROLOOP PROBE SET

PPS  
PROPOSED UNDERGROUND POWER SERVICE (ELECTRICAL CABLE - 1-CONDUCTOR NO. 4 AWG-THHN/THWN) 3-30' COILS OF SLACK AT BASE OF UTILITY POLE FOR USE BY OTHERS

PPD  
PROPOSED UNDERGROUND TELEPHONE SERVICE TO BE INSTALLED BY OTHERS

SE  
PROPOSED GROUND ROD - 3/4 INCH DIAMETER X 10 FOOT LENGTH.

MAST ARM DETAIL



PHASE CHART

	1	2	3	4	5	6	7	
	G Y G	G Y G	G Y G	G Y G	G Y G	G Y G	G Y G	
PHASE 2 & 6	G	G	G	G	G	R	R	
PHASE 6 CHANGE	Y	Y	G	G	G	R	R	
PHASE 2 & 5	R	R	G	G	G	R	R	
PHASE 2 & 5 CHANGE	R	R	Y	Y	Y	R	R	
PHASE 4	R	R	R	R	R	G	G	
PHASE 4 CHANGE	R	R	R	R	R	Y	Y	
FLASHING OPERATION	FLY	FLY	FLY	FLY	FLY	FLR	FLR	

TOD No: XX447-16M  
SHA No: AA756A57/B57  
MD 178 @ Veteran's Highway

SHA

STATE OF MARYLAND  
DEPARTMENT OF TRANSPORTATION  
STATE HIGHWAY ADMINISTRATION  
OFFICE OF TRAFFIC & SAFETY  
TRAFFIC ENGINEERING DESIGN DIVISION  
MD 178 (GENERALS HIGHWAY) AT VETERANS HIGHWAY  
MILLERSVILLE, MD

GENERAL INFORMATION

SCALE NONE ADVERTISED DATE JULY 1, 2010 CONTRACT NO. XX4475185

DESIGNED BY MMO COUNTY ANNE ARUNDEL  
DRAWN BY MMO LOGMILE 02017808.06  
CHECKED BY MTS TMS NO. J849  
F.A.P. NO. TOD NO. NA

TS NO. 4753 DRAWING SG-02 OF 02 SHEET NO. 02 OF 03